

IN THE CLAIMS:

63. (Amended) The method of claim 58, wherein said antibody further lacks significant immunoreactivity with a protein having the sequence of SEQ ID NO: 2.

64. (Twice Amended) A heterologous cell, comprising
(i) a nucleic acid molecule encoding a β -secretase protein of SEQ ID NO: 43, SEQ ID NO: 66, SEQ ID NO: 67, SEQ ID NO: 69, or the complementary sequence of said nucleic acid molecule;

(ii) a nucleic acid molecule encoding a β -secretase substrate molecule; and

(iii) operatively linked to (i) and (ii), a regulatory sequence effective for expression of said nucleic acid molecules in said cell.

67. (Amended) The cell of claim 64, wherein said β -secretase substrate molecule is selected from the group consisting of the wild type β -amyloid precursor protein (APPwt), the Swedish mutant β -amyloid precursor protein (APPsw), and β -secretase cleavable fragments thereof.

68. (Twice Amended) The cell of claim 64, wherein said β -secretase substrate is selected from the group consisting of a maltose binding protein fused at the carboxy-terminus to the 125 carboxyl-terminal amino acids of β -amyloid precursor protein (APP) having the cleavage site of SEQ ID NO: 54 (MBP-C125wt) and a maltose binding protein fused at the carboxy-terminus to the 125 C-terminus amino acids of β -amyloid precursor protein (APP) having the cleavage site of SEQ ID NO: 51 (MBP-C125sw).

69. The cell of claim 67, wherein said β -secretase-cleavable fragment is selected from the group consisting of SEVKMDAEF (P5-P4'wt), SEVNLDAEF (sw), SEVKLDAEF, SEVKFDAEF, SEVNFDAEF, SEVKMAAEF, SEVNLADEF, SEVKLADEF, SEVKMLAEF, SEVNLLAEF, SEVKLLAEF, SEVKFAAEF, SEVNFAAEF, SEVKFLAEF, and SEVNFLAEF.